BRANDYWINE FALLS
MASTER PLAN

Lower Mainland Region
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To: Mr. C. O. Gray
Assistant Deputy Minister
Parks & Outdoor Recreation Division
Ministry of Lands, Parks & Housing
Victoria, B. C.

This Master Plan for Brandywine Falls Provincial Park is herewith submitted for your consideration and approval.

Approved: M. H Turner
Regional Director

Approved: George Trachuk
Director, Planning and Research

Approved: George Trachuk
for Assistant Deputy Minister

To: Program Steering Committee
Parks and Outdoor Recreation Division
Ministry of Lands, Parks and Housing
Victoria, B. C.

This Master Plan for Brandywine Falls Provincial Park is submitted for your consideration and approval.

APPROVED: _____ 83-02-25
M.H. Turner, Acting Regional Director Date

APPROVED: _____ _____
Chairman, Program Steering Committee Date

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Lower Mainland Region
Parks and Outdoor Recreation Division
Ministry of Lands, Parks and Housing

BRANDYWINE FALLS PROVINCIAL PARK
MASTER PLAN

NOVEMBER 1982

PREFACE

The following master plan encompasses the present park at Brandywine Falls. Under Part I, Section D.7. reference is made to the park potential of areas lying adjacent to the park. These lands were originally set aside as a U.R.E.P. reserve and a Park Study reserve.

It is recommended that further work be undertaken to determine the suitability of formally dedicating these lands, possibly as a Recreation Area. This area would be the subject of a separate Park Proposal document.

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PART I: SUMMARY & BACKGROUND

A. PLAN SUMMARY

Brandywine Falls Provincial Park was established in 1973 primarily to protect the scenic 66 meter waterfall. The park landscape represents a geologically recent example of glaciation combined with volcanic activity. The proximity of the falls and geological features to Highway 99 provides high quality viewing and interpretive opportunities within day range of Vancouver.

The park is bisected by three B. C. Hydro transmission line rights-of-ways, the B. C. Railway line and Highway 99. It is important to note the visual effect of B. C. Hydro's transmission lines. A study is presently underway to analyze alternative line locations in order that agencies such as Parks and Outdoor Recreation Division, Ministry of Forests and the Resort Municipality of Whistler will agree to the proposed Kelly Lake-Cheekye 500 kV transmission line corridor. Mineral claims cover most of the park; however, surface rights have been restricted over the falls and main park use area. A Provincial Hazard Area designation over the lowest elevations of the park, below Brandywine Falls, restricts intensive use of this portion of the park.

Present use is focused on viewing and nordic skiing. Facilities consist of an informal parking/camping area, a falls viewing platform, and trails for summer and winter use. Topography and water features limit large scale intensive use primarily to presently developed areas. Dispersed use such as hiking, nature study and winter nordic skiing can, however, occur over much of the park. The park also affords opportunities for fishing and some lake activities. Hazards exist along portions of the Brandywine Canyon rim and in the unrestricted access over the B.C. Railway line.

The Highway 99 corridor north of Squamish is becoming increasingly popular for both day users and campers, particularly on weekends. Most of the users originate in Vancouver. Traffic for all seasons is currently increasing over 10% per year.

Most public recreation sites experience capacity and higher use during summer weekends; demand is greatest for camping facilities. The supply of recreation facilities has decreased greatly in recent years due to the closure of B. C. Hydro and Forest Service sites within the Hazard Area.

Formalized recreation facilities are scarce north of Alice Lake. Brandywine Falls Park will provide such facilities and serve as a major focus for day travellers on Highway 99, and in addition, cater to the overnight camping market. Increased winter use in the park will be encouraged as well as continued cooperation with the Resort Municipality of Whistler in developing nordic ski trails.

B. REGIONAL AND PROVINCIAL CONTEXT

Brandywine Falls Provincial Park was established in 1973 as a Class "A" park primarily for the preservation and interpretation of the spectacular waterfall and associated geological formations. The park is located in the Cheakamus River Valley within the Squamish-Lillooet Park Subregion. It is 34 kilometers north of Squamish and directly accessible from Highway 99 (Figure 1, page 10). British Columbia Railway passes through the park and provides a flagstop service at the highway/railway junction.

The park comprises 147.7 hectares. Its landscape is surprisingly diverse consisting of undulating volcanic plateaus, barren rocky escarpments, a creek canyon and waterfall and a creek delta at the north end of Daisy Lake. The eastern edge of the park is bordered by the Cheakamus River.

Brandywine Falls Park is located in a sparsely populated area supported primarily by forestry. The area offers some of British Columbia's most dramatic mountain scenery within an hour and one half drive from Vancouver. As a result, the area is steadily increasing in popularity and constitutes an important segment of the Lower Mainland's recreation resource. Year round outdoor recreation opportunities in this area are provided by the Ministry of Lands, Parks and Housing, the Ministry of Forests, B.C. Hydro* and by the private sector at the Resort Municipality of Whistler.

* By O.I.C. #1465 B.C. Hydro Recreation Facilities closed May 15, 1981. The O.I.C. designates the area as a Geological Hazard Area (Part I, D 6).

Brandywine Falls Park serves regiona l recreation and touring system markets. The general park objectives are:

1. Preservation - to preserve special hydrological and geological park features.

2. Interpretation - to provide opportunities for the interpretation of special park features.

3. Recreation - to provide opportunities for day use recreation and overnight use along the Highway 99 corridor.

C. RESOURCES

1. NATURAL RESOURCES

a. Natural Region and Regional Landscape

The park is located in the Coastal Mountain Natural Region within the Rugged Pacific Ranges regional landscape. Brandywine Falls Park represents a river valley component of this landscape type.

b. Climate

The climate in the park is a modified coastal climate with comparatively cool winters and warm summers. Climate is influenced by the park's proximity to ocean inlets and mountain glaciers.

The summer day temperature range for the months May through to September is 16°C - 23°C, with the maximum temperatures occurring in July. The winter day temperature range for the months December through to April is -1°C - 11°C, with the minimum temperatures occurring in January.

Rainfall is highest during the fall of the year; the summer months are comparatively dry and sunny. Snow conditions are generally dry and the average depth is +/-1 meter from December through to March (Outdoor Recreation Maps of B.C., 1981).

c. Physiography

Volcanic activity has produced the primary attractions of the park (Brandywine Falls and canyon) and associated landscape elements. The volcanoes in the area were active during the ebbing stages of the last glaciation. Lava flows form the upper and lower plateaus in the park. The plateaus have since been eroded by glacial meltwater channels and more recent water courses. Water-filled depressions, forming small lakes and ponds, dot the upper plateau surface.

The termination of lava flows are marked by steep rock escarpments. One escarpment forms the canyon below the falls on Brandywine Creek. The canyon escarpment reveals a fracturing pattern caused by the contact of lava with ice. These sinuous "columnar basalts" also appear in other escarpment faces throughout the park and along sections of Highway 99. Other features in the park attributed to volcanic activity are a large volcanic dyke in the southwest corner and lava eskers on the upper plateau.

d. Hydrology

Brandywine Falls is the major feature of the park. The 66 meter high falls drop over a basalt sill into a steep cauldron-shaped canyon, approximately 100 meters wide with overhanging walls. Glacial-fed Brandywine Creek forms the falls, flows through the canyon and terminates as a delta at Daisy Lake. The delta is subject to spring flooding.

Accessibility to the edge of Brandywine Creek is limited. Above the falls, steep banks restrict access and below the falls, only the eastern edge of the creek is accessible. The Cheakamus River is completely inaccessible; the river flows in a steep granite gorge forming a "box" canyon.

Both the Cheakamus River and Brandywine Creek contribute water to Daisy Lake Hydro Electric Reservoir. Daisy Lake comprises 429 hectares and forms the southern border of the park. Lake levels fluctuate from 364.5 to 378 meters over the year; the low occurring in mid April and the high occurring between September and December. The maximum daily drawdown is 1.2 meters (Geurnsey, 1982). Drawdown during summer may be hazardous to boaters when low water levels expose rock outcroppings. Floating debris, carried into Daisy Lake from river and creek channels, also poses a hazard to lake users.

Small warm water lakes and ponds are found east of Brandywine Creek on the upper lava plateau. The source of water in these small lakes and ponds is unknown, however, they are not supplied by fresh running water. Lake and pond edges are generally boggy, and support a large summer insect population.

e. Vegetation

The park is situated in the Coastal Western Hemlock biogeoclimatic zone. The principal forest cover consists of Douglas Fir and Lodgepole Pine. The moist low lying alluvial sites support Western Hemlock, Red Cedar, Big leaf Maple and Alder. The upper lava plateau has very shallow soils supporting primarily immature Lodgepole Pine and a moss/lichen ground cover. Under cleared hydro-electric transmission rights of way, vegetation is sparse and regeneration is extremely slow. Throughout the park, there are a number of escarpment faces supporting no vegetation.

f. Wildlife

There are no significant animal concentrations in the park vicinity. Topography, vegetation cover and snow conditions impose severe limitations for the production of ungulates and waterfowl (Can. Land Inventory, 1973). Some small mammals and birds such as squirrel, raccoon, Canada jay and raven however, are present in the more forested areas of the park. Fish are reported in Brandywine Creek below the falls and in the Cheakamus River. Brandywine Creek is primarily a low productivity stream due to glacial influence but the Cheakamus River

has high productivity and excellent fishing. Kokanee, Rainbow Trout and Dolly Varden are the primary fish species caught in this area (Geurnsey, 1982).

2. CULTURAL RESOURCES

a. Archaeological

No archaeological sites have been found in Brandywine Falls Park.

b. Historical

During the 1800's, the Cariboo Gold Rush attracted many people to the interior of the province. The Cheakamus River Valley was one route used but whether the trail passed through the park is unknown. Prior to 1915, a railway was constructed from Vancouver to Clinton passing through Brandywine Falls Park. The name "Brandywine" dates back to an event occurring during the construction of this railway; apparently two members of a survey party wagered botties of brandy and wine over the height of the falls. Since the 1940's, three hydro-electric transmission lines have been built through the valley. A highway linking Squamish and Pemberton was completed in the 1960's. A resort was located on the present park site prior to 1973.

3. VISUAL RESOURCES

The park offers breathtaking viewing experiences of the falls and canyon and a panoramic view south over Daisy Lake with its mountain backdrop.

There are three hydro-electric transmission lines which run through the park; the central and eastern lines have impaired the integrity of the park's visual resources. Concern is expressed, in particular, for further degradation as a result of the proposed upgrading of transmission lines through this area. Discussions regarding alternative routes are currently underway between B.C. Hydro, Parks and other agencies.

Included within the park boundary is a section of Highway 99. The location of the highway within the park protects land adjacent to the highway by restricting development and leaving the land in a comparatively natural, unspoiled state. This protection affords higher quality viewing sheds for touring motorists than experienced from Highway 99 north and south of the park.

Abandonment of the former resort has resulted in a large disturbed area at the park entrance. No development has occurred in this area since establishment of the park. Rehabilitation of this site is required.

4. ANALYSIS

a. Major Opportunities and Constraints

CLIMATIC RESOURCES	
OPPORTUNITIES	CONSTRAINTS
- moderate temperatures promote opportunities for year round use in the park. - dry snow conditions of a suitable depth promote opportunities for nordic skiing and snowshoeing 3 - 4 months of the year.	- spring and particularly fall rain may decrease use in the park during these seasons.
PHYSIOGRAPHIC RESOURCES	
OPPORTUNITIES	CONSTRAINTS
- diversity of landscape and topography offers high quality visual experiences and a variety of recreation opportunities. - geological features within park have high interpretive value. - topography acts as a physical and visual barrier from man made intrusions.	- steep escarpments severely restrict trail and road development between different areas within the park. - overhanging canyon walls pose safety hazard and limit development along the canyon rim, particularly along the west rim. - bedrock close to surface restricts intensive development through most of the park.
HYDROLOGICAL RESOURCES	
OPPORTUNITIES	CONSTRAINTS
- Brandywine Falls offers opportunities for high quality viewing. - Daisy Lake and Swin Lake offer opportunities for non-power boating.	- fast flowing water courses and steep banks create safety hazards and restrict access to water's edge. - flooding of Brandywine Creek restricts intensive development near the delta and restricts access to the base of the falls.

HYDROLOGICAL RESOURCES (cont'd)	
OPPORTUNITIES	CONSTRAINTS
- Swin Lake offers opportunities for limited beach use and swimming. - the park offers opportunities for visitors to be close to a number of different types of water bodies and features.	- boating on Daisy Lake is limited by the hazard of outcroppings during drawdown and by floating debris. - use of Daisy Lake for beach activities is undesirable because of cold water. - marshy areas on lava plateaus restrict intensive development and may encourage insect populations.
VEGETATION RESOURCES	
OPPORTUNITIES	CONSTRAINTS
- generally sparse understory allows for dispersed use and minimal clearing in the event of development. - vegetation acts as a buffer for park visitors and motorists on Highway 99. - no known tree hazards.	- high summer fire hazard on upper plateau. - regeneration slow on shallow soils. - hydro-electric transmission rights of way in park must have ongoing vegetation management.
WILDLIFE RESOURCES	
OPPORTUNITIES	CONSTRAINTS
- Brandywine Creek and Swin Lake have opportunity to enhance fishing activities through stocking program.	- no major conflicts between recreation use and animal habitat.
CULTURAL RESOURCES	
OPPORTUNITIES	CONSTRAINTS
- opportunity to include historical information into interpretive program (Railway and Cariboo Gold Rush Trail).	- no known conflicts between recreation use and cultural resources.

VISUAL RESOURCES	
OPPORTUNITIES	CONSTRAINTS
- viewing of Brandywine Falls provides the opportunity for a unique and high quality visual experience.	- hydro-electric transmission lines have a negative impact on the park visual resources.
- the diversity of visual resources in the park provide opportunities for quality viewing.	- proposed upgrading of the central transmission line through Brandywine Falls Park may have major impact on future and existing development (Part I, D3).
- vantage points from canyon rims provide opportunities for distant vista viewing.	- other man-made intrusions (railway, highway) have minimal impact on park visual resources.
- visual resources in the park have opportunities to acquire more value through an interpretive program.	- former resort area at park entrance requires rehabilitation to improve its visual quality for both park users and motorists on Highway 99.

b. Analysis Summary

Brandywine Falls and associated geological features represent a unique landscape within the Lower Mainland. The viewing of the falls has in the past, and will in the future, provide the primary interest in the park. It is a Division goal to protect this natural resource and to accommodate the public by providing viewing and interpretive opportunities.

Apart from viewing, the park provides for a variety of other potential recreation and interpretive opportunities. Picnicking, camping and lake activities can be provided at specific areas in the park at a small scale. Topography, geology and water features however, restrict large scale intensive development. Dispersed use activities, such as hiking, nordic skiing and interpretation can occur over most of the park's landscape with minimal conflict. Public hazards can be avoided through conscious planning of future development. Figure 2, page 20 graphically summarizes the analysis of park resources in terms of a number of characteristic landscapes, each having specific opportunities and constraints.

D. LAND TENURES, OCCUPANCY RIGHTS AND JURISDICTIONS

1. LEASES AND USE PERMITS: none

2. FEE SIMPLE LANDS: none

3. OTHER TENURES: see figure 3, page 22

a. Highway Right of Way; Plan 105, Highway 99.

b. B.C. Hydro Transmission Rights of Way;

Three from west to east are legally described as,

- District Lot 4098; inter alia, part included in Reference Plan 5875 (RW 307813-M)
- *Parcel "A" (Reference Plan 2219) of District Lot 3558 and Parcel "A" (Reference Plan 2270) of District Lot 4098; inter alia, assignment of RW 64299-H (RW 73691-M)
- Portions of District Lots 4099 and 4100 included in Reference Plan 9739 (RW 483513-M)

c. B.C. Hydro Access Right of Way;

RW 260267-M allows B.C. Hydro free right and liberty to pass and repass along existing roads within the park and over a three meter wide area above the 378 meter contour around the north end of Daisy Lake in District Lot 4099. (Ref. explanatory Plan 5083).

* Kelly Lake-Cheekye 500 vk transmission line corridor proposed to replace existing line. The configuration of the new towers is 4 meters wider at the base and estimated 25-30 meters higher. The spacing of the towers is unknown. This proposal is currently under review by B.C. Hydro and other agencies.

4. TREPASSES: none

5. MINERAL CLAIMS: see figure 4, page 24

Silver Tusk Mines Ltd. have ten mineral claims in good standing within the park boundaries, they are:

- Van #23, 29 - 37 (Record # 11791, 11797 - 11805)
- Note for claims Van 32 and 34 (Record # 11800 and 11802) that the surface rights have been restricted under section 11 of the Mineral Act, R.S.B.C. 1979. Restriction is subject to the owners of these claims retaining the right of access and maintenance to the road that passes through Van 34 (11802).

6. STATUTORY JURISDICTION:

a. Hunting Regulations;

Hunting, shooting and the discharge of firearms is prohibited in the park.

b. Fishing Regulations;

The park is subject to Provincial freshwater fishing regulations. The Cheakamus River, however, is subject to additional special fishing regulations regarding type and numbers of fish caught, particular seasons for angling and method of angling.

c. O.I.C. #1465 - The Barrier Geological Hazard;

Under the Emergency Programs Act, the order describes the land where a potential hazard to life and property exists due to an unstable geological feature known as "The Barrier". In the park, land below the 400 meter contour is subject to wave generated hazard and is included in the designated hazard area. The Park Act legally supersedes the Emergency Programs Act, however, we recognize the concern for potential hazard as indicated in the act and do not recommend intensive development within the hazard area. See figure 5, page 27.

d. Water Licenses;

- B.C. Hydro conditional water license #22284, authorizes use of water from the Cheakamus River, Rubble Creek and their tributaries for Daisy Lake Reservoir.
- B.C. Hydro conditional water license #2285, authorizes the storage of water in Daisy Lake Reservoir to the maximum level of 378 meters. This elevation determines the park boundary at Daisy Lake.
- Park Branch conditional water license #20547, authorizes the diversion and use of water from Brandywine Creek for domestic purposes.

7. MAJOR ADDITIONS AND BOUNDARY ADJUSTMENTS

Prior to the park's establishment in 1973, interest was shown in adjacent land for its recreational potential. In 1963, a U.R.E.P. reserve was established over 81 hectares and in 1972 a temporary park study reserve was established over an additional 243 hectares. Both of these reserves were deleted in April, 1979, in order to allow the Parks Branch to incorporate these areas into Brandywine Falls Park. To date this has not occurred. Subsequently, the boundary of Whistler Municipality has been extended south to the north boundary of the park.

Parts of the aforementioned reserves are currently being considered for their inherent recreation potential and opportunities. A descriptive summary of these lands is contained in the Appendix. Figure five shows the location of these areas, as well as existing boundaries and suggested boundary adjustments.

E. EXISTING FACILITIES

Existing park facilities consists of the following. Their location is shown on figure 6, page 30.

1. Gravel parking lot capable of accommodating approximately 100 cars. Used for wayside picnicking and informal camping.

2. Two A-frames used for park management; one is used as a summer residence for the park warden supervising Brandywine Falls Park and other parks in the vicinity.

3. Two pit toilets and park information/registry shelter.

4. Nordic skiing trail with trail markers. An old road is used for a portion of the ski trail with a loop recently cleared to complete the trail. The loop is not groomed. The trail head is located in the park, east of the Brandywine Creek bridge; the southern end of the trail is very steep and may discourage use.

5. Trail access to lower Brandywine Creek, Daisy Lake and an abandoned camp ground of the previous land owner. Portions of the trail follow a B.C. Hydro access road.

6. Viewing platform extending over canyon and wire safety fence along canyon rim. Platform has both stair and ramp access, however, trail to platform is inaccessible by wheelchair. Two picnic tables are provided at viewpoint location.

7. Canyon rim pedestrian trail affords quality viewing, however, sections are dangerous due to overhanging cliff. Remnants of previous land owner's facilities (old log fence and tree bench) are located on the trail.

8. Pedestrian trail following west canyon rim; accessed across B.C. Rail line, west of trestle. This trail is extremely hazardous; trail along overhanging cliff with no fencing.

9. Highway point of interest and gravel pull out. Feature at this point is a good example of columnar basalt. No formal development has taken place.

10. Swim Lake day use area and pedestrian trail used by previous land owner. Remaining facilities are small dock (submerged), bench, pit toilet and a garbage barrel.

11. Log bridge over Brandywine Creek (20 meters long) closed to vehicular traffic by a metal gate; bridge declared unsafe in 1974 for vehicles. Bridge used as a pedestrian access to viewpoint, Swim Lake, lower Brandywine Creek and ski trail.

F. MARKET ANALYSIS

1. EXISTING USE

The market, serving the Highway 99 corridor may be divided into the following categories.

- Day Use Destination
- Day Use Touring
- Wilderness Camping
- Corridor Camping
- Resort Destination

Brandywine Falls Park primarily satisfies a Vancouver based, Day Use Touring market. A Highways "origin-destination" study (July 27-30, 1981), conducted at the Cheekye River Bridge, found that approximately 30% of traffic surveyed as one day recreation traffic, originated in the Vancouver area. Of these vehicles, 65% or 250 vehicles per weekday were utilizing public recreation areas. Both traffic volumes and percent of recreational use would be greater on the weekends.

The use figures for seasonal day use and camping at Brandywine Falls Park are as follows:

a. Day Use (non-skiing)

- 1980 day use figures from Parks Branch, calculated over a six month period (June - November), recorded 51,075 visitors to Brandywine Falls Park.
- 83% of the visits occurred during July, August and September.
- Assuming 50% of this use was during the weekends, an average of 1760 persons (or approximately 500 parties) visited the park per weekend, or 65 parties at one time.

b. Day Use (nordic skiing)

- 1979 Parks Branch day use figures calculated over a four month period (January - April), recorded 2,712 skiers at Brandywine Falls Park.
- over half of the recorded use occurred in January.
- assuming 80% of the January visitors were weekend skiers, an estimated 300 skiers or 86 parties were in the park each weekend, or 22 parties at on time.

c. Overnight Use (camping)

- Parks Branch data shows the monthly average for 3 years of available data (1978-1980) is 97 parties.
- Assuming 75% of camping occurred during the weekends, the average number of parties is 9 per evening.
- Parks Branch 1979 data revealed 92% of the campers were of B.C. origin and 81% of the campers had motorhome, camper or trailer accommodations.
- The closure of Daisy Lake camping facilities in 1981 has likely led to an increase in camping use at Brandywine Falls Park; no data is available at this time for 1981/1982 camper use.

Data indicates Brandywine Falls Park is most popular for summer day use, primarily on weekends and related specifically to viewing. Some informal camping and skiing occurs in the park with increasing use noted during long weekends. The parking facilities (approximately 100) have accommodated all visitors with minimum conflict. There is no indication that present use is exceeding the park's carrying capacity. There is potential for the park to serve the Corridor Camping market.

2. SUPPLY AND DEMAND

The Highway 99 corridor is becoming increasingly popular with recreationists due to its natural scenic qualities and proximity to Vancouver. Ministry of Highways' traffic volumes recorded at the Cheekye River Bridge indicate an increase of 36% over three years (1978-1980), with peak travel coinciding with summer and weekend recreation use times.

There has been an increase in use of the corridor for recreation in recent years but the supply of recreation facilities has declined drastically. The Barrier Hazard Area designation (O.I.C. #1465) has resulted in closure of all B.C. Hydro recreation sites at Daisy and Stanley Lakes, and Forest Service sites at Rubble Creek and Widow Creek. Other area recreation sites closed are the Cheakamus Canyon site, abandoned due to recent highway construction, and a privately owned resort at Lucille Lake, closed due to a lease expiry (see Table 1, page 36 and figure 6, page 37).

According to observations made by the Ministry of Lands, Parks and Housing and the Ministry of Forests, recreation demand exceeds supply. B.C. Hydro expressed similar conditions at their sites before the O.I.C. closure. For all agencies, supply is particularly limited for camping opportunities on weekends and holidays.

Alice Lake Park use figures indicate 100% occupancy for camping facilities each weekend, May through September (1980), with an overflow during the months of July and September. Parks do not record unsatisfied demand but reference has been made to many hundreds being turned away. A Ministry of Forests report on recreation in the Soo T.S.A. unit (1980) estimated the number of users above their site capacity in the Squamish area to be 7,232 user visits or 21% of the total visitors. Further, B.C. Hydro estimates 7,870 campers used their sites May to July 1980 (Kozak, 1982), indicating use far beyond the stated capacity of 80 organized campsites. There is, in addition, an unknown amount of camping occurring in areas accessed by old logging roads off Highway 99.

There is a scarcity of formal day use areas along Highway 99, north of Squamish. Alice Lake, Brohm Lake and Cal-Cheak Junction are all heavily used during the summer, particularly on weekends. Daisy Lake day use area, as well, is reported to have had heavy use before its closure (Kozak, 1982).

Alice Lake day use attendance has increased approximately 26% from 1979-1980. Parks data shows the weekend attendance was generally above 40% day use capacity, with July 1st long weekend use exceeding 100% capacity. The Ministry of Forests calculated 11,366 user visits to Brohm Lake in 1980 (Supply and Demand, 1982), and B.C. Hydro recorded 6,700 visitors at Daisy Lake from May to July 1980 (Kozak, 1982). There are 12 formal picnic sites at Daisy Lake indicating demand far exceeds the supply of facilities.

3. MARKET IMPLICATIONS

Recreation demand along the Highway 99 corridor from Squamish to Whistler is far in excess of available opportunities. The greatest deficit occurs during summer weekends and long weekends. Overnight camping has the greatest demand and most limited supply. Major day use areas with formalized facilities and warm water swimming lakes are limited. No such day use facilities occur north of Brohm Lake and opportunities are very limited within the entire Vancouver - Whistler corridor.

Demand for nordic skiing trails is increasing. Skiing generally occurs in the Whistler area, however, trails have been established and utilized at Brandywine Falls Park in the recent past. This area is particularly suitable for novice skiers. As development at Whistler continues, it is also anticipated that winter recreation demand other than for downhill skiing will increase. This may have implications for Brandywine Falls Park by increasing the demand for winter viewing of the falls, and possibly for winter camping.

TABLE ONE: EXISTING RECREATION FACILITIES BETWEEN SQUAMISH - WHISTLER.

AGENCY	RECREATION SITE	VEHICLE CAMPING	TENTS	# OF SITES	WINTER ACCOMODAT.	FISHING	SWIMMING	PICNICKING	HIKING	NORDIC SKI	WINTER REC. SNOWMOBILE	VIEWING	GROUP USE	MOTOR BOATING	NON MOTOR
PARKS	BRANDYWINE FALLS					○		○		○		○			
	ALICE LAKE	○	○	95		○	○	○	○	○			○		○
FORESTRY	RUBBLE CREEK	○						○	○						
	CAT LAKE	○	○			○	○	○	○		○				○
	CAT CREEK	○	○			○		○			○				
	BACHA LAKE					○	○	○							○
	WIRENT CREEK		○												
	CHEAK CANYON					○		○							
B.C. HYDRO	LAIDY LAKE					○		○				○			○
	STANLEY LAKE	○	○	50		○	○	○	○	○					○
	ICE CREEK	○	○	30				○	○						
PRIVATE	LILLOOET LAKE	○	○	87		○	○		○				○	○	
	FERGIE'S LODGE	○	○	10	○								○		

◇ SITES CLOSED

FOR LOCATION OF SITES SEE FIGURE SIX

NOTE: THE SQUAMISH TSB (FORESTRY RECREATION SITES) HAS A TOTAL OF 32 OVERNIGHT SITES.

SOURCE: OUTDOOR RECREATION MAPS OF BRITISH COLUMBIA # 3 WHISTLER/ GARIBALDI REGION. THE OUTDOOR RECREATION COUNCIL OF BRITISH COLUMBIA, 1981.

: SUPPLY AND DEMAND OF THE RECREATIONAL RESOURCE IN SOO TSA. UNPUBLISHED DRAFT REPORT, APRIL 3, 1981. MINISTRY OF FORESTS.

G. PLANNING ISSUES

1. North of Squamish, the demand for formalized recreation facilities exceeds supply for both day use and overnight facilities, resulting in overuse of some sites and heavy off road use elsewhere. Recreational demand is presently increasing at over 10% per year. Closure of existing facilities as a result of the Barrier Hazard Area designation and other causes will further strain recreation resources. Areas suitable for development along the Highway 99 corridor are very limited. An essential planning question is: To what extent should and can the Parks Branch meet the shortfall in formal recreation facilities and what is the appropriate role of Brandywine Falls Park in this issue.

   Brandywine Falls is a major feature along Highway 99. The park offers potential to serve as a major day use focus and to provide small scale overnight camping facilities in the region of the corridor where the supply of recreation facilities has become most limited.

2. Brandywine Falls Park provides a rare example of a landscape created by the simultaneous occurrence of glacial and volcanic activity. Furthermore, the proximity of the park to the Vancouver area offers potential for a large number of day visitors to experience this landscape To date, little has been done to promote use and interpret park features.

   Through a visitor information and interpretation program, Brandywine Falls Park can provide opportunities for visitors to view and interpret features associated with a glacial and volcanic landscape.

3. While the demand for both day use and overnight use in this area is high, the landscape character of Brandywine Falls Park severely limits intensive development. Better use can be made of the existing informal use area, however, by formalizing facilities and emphasizing multiple use on a daily and seasonal basis. Initial intensive park development should focus on the existing use area, with emphasis on the provision of economical year round facilities for both day and overnight visitors.

4. A public safety hazard exists on the unfenced west side of Brandywine Falls Canyon and on the east rim south of the existing viewpoint. Other areas of concern are the deteriorating log bridge which provides pedestrian access across Brandywine Creek, and unrestricted public use of the B.C. Railway right of way. In the interest of public safety, access to the west rim of Brandywine Canyon should be discouraged and development priority should be given to improved access across Brandywine Creek and limiting access across the B.C. Railway right of way.

5. Areas to the north, east and southeast of the park were set aside in the past for their recreational potential. Some of these areas currently are used for nordic skiing, fishing hiking and off-road camping. Some areas have potential for camping and small lake day use. Portions of these lands increase the diversity of landscape features found in the park. Other areas are important as visual buffers for scenic features in the park or along Highway 99. The issue of which areas should be added to Brandywine Falls Park and what status would be most appropriate should he addressed in a separate planning document.

PART II: THE PLAN

A. SPECIFIC OBJECTIVES FOR BRANDYWINE FALLS PARK

The objectives for this park are:

(1) to preserve Brandywine Falls and Canyon in a natural state and provide quality viewing opportunities of these features.

(2) to provide interpretive opportunities and facilities to complement the viewing experience and increase the visitors' awareness of geological processes in the park and area.*

(3) to establish a major day use area on the Highway 99 corridor providing:
- 50,000 + annual picnicking, hiking and lake swimming opportunities.
- 5,000 + annual nordic skiing opportunities.*

(4) to establish formal vehicle camping facilities providing 5,000 annual camper night opportunities.*

* Subject to availability of funds and in relation to other provincial and regional priorities; projected use figures based on completion of facilities.

B. ZONING

The park is divided into two primary zones ("Natural Environment" and "Development") and two sub-zones ("Interpretive/Preservation" and "Service") as indicated in figure 8, page 42. The rationale for zoning is as follows:

(1) Development zone - includes all areas to be intensively developed for roads and parking, picnicking, camping and winter trailhead use.

(1a) Service sub-zone - includes an area to be developed for management service facilities (seasonal residence/ outdoor storage area/workshop).

(2) Natural Environment zone - includes all areas to be used for non-intensive recreation or to remain in a natural state.

(2a) Interpretation/Preservation sub-zone - includes Brandywine Falls and canyon and their viewsheds.

C. DEVELOPMENT PLAN

Brandywine Falls park will serve as a major recreation site along Highwav 99. Consistent with its location and regional significance, will be a high quality for malized type of development, with design elements in keeping with the character of the park landscape.

Facility development will be undertaken as funds are available, in relation to provincial and regional priorities.

Phasing will generally be as follows:

Phase I - public safety measures, formalization of day use and camping area with basic facilities and services, initial information and interpretation program, primary trail system.

Phase II - upgrading to full level of facilities and services, completion of information and interpretation program, secondary trail system.

Phase III - additional facilities subject to acquisition of adjacent land.

Figures 9 and 10 (pages 44 and 45) represent the Overall Development Plan for Brandywine Falls Park and indicates the development concept for the main use area.

D. RECOMMENDATIONS AND POLICIES FOR MANAGEMENT AND PLANNING

1. RESOURCES

a. Land;

- de-gazette B.C. Hydro road right of way through park.
- extend present restriction of surface rights over mineral claims (section 11 , Mineral Act) to include all areas zoned "Development" and "Interpretation/Preservation".
- review areas north, east and southeast of park as an addition to park for the purpose of recreation and interpretation; take appropriate action.

b. Water;

- review need for retaining water licence #20547 for domestic use of water from Brandywine Creek; take appropriate action.
- review potential of small lakes for swimming as part of park expansion proposal.

c. Vegetation;

- develop a fire management plan for the park.
- encourage B.C. Hydro to revegetate transmission line rights of way.
- revegetate disturbed areas of former resort site in accordance with park development plans.

d. Wildlife;

- review feasibility of improving fish habitat in lower Brandywine Creek and small lakes; take appropriate action.

e. Cultural;

- review location of Squamish Trail to Cariboo in relation to park; designate for preservation as required.
- include reference to Squamish Trail and Railway history in park interpretive program.

f. Visual;

- review B.C. Hydro transmission line upgrading plans (central R/W) to ensure protection of the visual integrity of Brandywine Falls, Canyon and viewsheds.
- review feasibility of revising park boundary to protect viewsheds along Highway 99 as part of park expansion proposal.

2. PUBLIC USES

a. Recreation;

- acceptable types of recreation in this park are: viewing, picnicking, hiking, informal sports, vehicle camping, lake swimming, fishing, nordic skiing and snowshoeing.
- group recreation should be encouraged to include special interest groups, touring groups and educational groups.

b. Education;

- the geological features of the park provide an attraction for school groups of all ages as well as for researchers. Educational use will be encouraged through marketing and information programs.

e. Research;

- research of a non-manipulative type will be permitted in the park under permit.

d. Concession;

- no concessions will be permitted in the park.

e. Leases;

- no leases will be permitted in the park.

f. Use Permits;

- use permits will be issued for non-manipulative educational or research purposes.

E. MARKETING AND INFORMATION PROGRAM

Following the formalization of facilities in phase I of the development plan, signing of the park, including an entrance portal, highway advance sign, and internal signs will be provided. Displays will be established to offer regional and park feature information. A visitor services program with a small (50 person) meeting place/amphitheatre will be developed when overnight camping usage warrants it.

A marketing plan for Brandywine Falls will be developed in conjunction with other public and private recreation suppliers in the area as well as with Whistler Municipality. Marketing will include brochures, notations on the Provincial highways maps and in the Tourist Accommodation Guide, and information at tourist information centres.

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G. APPENDIX

1. SUMMARY OF RESOURCES AND POTENTIAL OF AREAS ADJACENT TO PARK: see figure 9

a. Lava Lake Area

The landscape of the Lava Lake Area is not represented in the park. The area is located on the upper lava plateau and unlike the park, topography is generally flat. Shallow soil supports an immature Lodgepole Pine forest and moss/lichen ground cover which creates a high risk of forest fire. There are a number of small lakes and ponds; most are shallow and marshy. No significant wildlife has been observed and the lakes do not currently support any fish populations. During the summer insect populations flourish in marsh areas.

Four lakes on the plateau have recreation potential. They have warm summer water temperatures, some accessible shoreline and usable uplands. The largest of these lakes, "Lava Lake", has a particularly attractive setting and an interesting bog environment at its south end. All the lakes could provide opportunities for beach development and non-power boating, nature interpretation, and possibly for fishing. Further work is required to define the potential of these lakes more precisely.

From the plateau, there are quality views offered of the surrounding mountain landscape. A hydro-electric power transmission line, however, crosses two of the lakes creating a visual and physical intrusion. Fortunately, the proposed upgrading of the central line east of the lakes is not expected to cause further impact (Part I, D3).

An abandoned access road, extending from McGuire Station to the bridge at Brandywine Falls Park, lies to the east of the lakes. During the winter, the road is used for nordic skiing. Parks have cleared a section of forest creating a loop for skiers. The ski trail is 3.4 kilometers in length and very suitable for novices. Informal use takes place off this road during the summer.

b. Upper Creek Flats Area

A small river bench, approximately 9 hectares, lies between Brandywine Creek and Highway 99, one kilo meter north of the park entrance. Vegetation consists mostly of mature Cedar, Hemlock and Douglas Fir with a dense understory. Portions of Brandywine Creek are accessible, however, the water is fast flowing.

The Upper Creek Flats area contains a fine example of a columnar basalt formation. It can be seen directly from Highway 99, immediately north of the Brandywine Creek bridge crossing. The Department of Highways have provided a pullout for traffic at this point.

There is potential at this site for the development of a small scale camping area and an interpretive point of interest; both would have direct access from Highway 99. The area, however, is physically isolated from both the main park and the Lava Lake Area by Brandywine Creek with the exception of a narrow linkage immediately north of the park between the highway and Brandywine Creek.

c. Cheakamus River Mouth Area

This area is a southward extension of the upper lava plateau found in the park. It is characterized by rugged escarpments and numerous steep sided volcanic mounds. A former glacier meltwater channel passes through the area, and several small water filled depressions occur on the plateau. To the east, the Cheakamus River passes through a steep narrow gorge. The mouth of the Cheakamus River is a notable fishing area. Access to the mouth of the river is by abandoned roads or by boat. The potential of this area is primarily for access to the river mouth fishing area as well as to create additional opportunities for geological interpretation.